

<b>Department of Mechanical Engineering</b>			
<b>Introduction to Mechatronics Software (67371)</b>			
<b>Total Credits</b>	<b>2</b>		
<b>major compulsory</b>			
<b>Prerequisites</b>	P1 : Computer Programming (66111) OR Computer Programming (61201)		
<b>Course Contents</b>			
The course introduces the most popular used software(MAT LAB and SIMULINK software) for matrix operations, and solution of linear equations. Programming methods in MATLAB software (m-files) and the software library of m-defined functions. Graphical representation of data structures and analysis of Mechatronics systems using SIMULINK Software.			
<b>Intended Learning Outcomes (ILO's)</b>		<b>Student Outcomes (SO's)</b>	<b>Contribution</b>
1	At the end of this course students should be able to : Deal with principle Matlab variables, functions, commands and operators	K	40 %
2	Create branching statements: if statement, switch statement etc	K	25 %
3	3. Create Matlab loops	K	25 %
4	Use Simulink toolbox	K	10 %
<b>Textbook and/ or References</b>			
Matlab Programming for Engineers, 4th Ed. Chapman S. J.			
<b>Assessment Criteria</b>		<b>Percent (%)</b>	
First Exam		20 %	
Second Exam		20 %	
Homeworks		20 %	
Final Exam		40 %	
<b>Course Plan</b>			
<b>Week</b>	<b>Topic</b>		
1 &2	Introduction to Matlab		
2, 3, &4	Matlab basics: variables, workspace, principle commands etc.		
5 &6	Built-in functions and Matlab help		
7 &8	Branching statements.		
9	MIDTERM EXAM 1		
9, 10, 11, &12	Branching statements and loops.		
12	MIDTERM EXAM 2		
13 &14	User defined functions.		
15 &16	Introduction to Simulink toolbox and other important toolboxes.		
16	Final Exam		